

## A Container for Aerated Beverages

This invention relates to a container for containing aerated beverages, and in particular such a container which is reusable.

### Background of the Invention

There are in existence a number of containers for containing aerated beverages, e.g. carbonated beverages, such as soft drinks and aerated mineral waters, or beverages containing oxygen or oxygen-producing contents, such as some alcohol-based beverages. There are cups made of paper with a releasable lid for covering the opening end of the cup. A drinking straw may be inserted through an opening of the lid into the interior of the cup, thus allowing a user to drink the content in the cup in the usual manner. A shortcoming associated with this arrangement is that if the content is an aerated beverage, the carbon dioxide or oxygen in or generated by the aerated beverage will gradually escape into the atmosphere, thus adversely affecting the taste and quality of the beverage.

Other arrangements have been proposed for solving such a problem, and particularly for allowing storage of aerated beverages over a relatively long period of time while retaining the carbon dioxide or oxygen in the beverages. Such include the use of cans and bottles. However, such containers are not readily reusable, in the sense that a user cannot pour an aerated beverage into an opened can or bottle and still be able to maintain the carbon dioxide or oxygen in the beverage.

It is thus an object of the present invention to provide a container in which the aforesaid shortcomings are mitigated, or at least to provide a useful alternative to the public.

### Summary of the Invention

According to the present invention, there is provided a container including a cover member and a body member with a cavity adapted to contain an aerated beverage, wherein said body member and said cover member are releasably engageable with each other in an air-tight manner, and wherein when said body member and said cover member are engaged with each other, at least a part of said cover member extends into said cavity of said body member to increase the air

pressure in said cavity above atmospheric pressure.

### Brief Description of the Drawings

A preferred embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is an exploded side view of a beverage container according to the present invention;

Fig. 2 is a further exploded view of the beverage container shown in Fig. 1;

Fig. 3 is a top perspective view of a cover of the beverage container shown in Fig. 1;

Fig. 4 is a bottom view of the cover shown in Fig. 3;

Fig. 5 is a side view of the cover shown in Fig. 3;

Fig. 6 is a longitudinal cross-sectional view of a body of the beverage container shown in Fig. 1;

Figs. 7A and 7B show engagement between the cover and the body of the beverage container shown in Fig. 1; and

Fig. 8 is a longitudinal cross-sectional view of the beverage container shown in Fig. 1, with the cover engaged with the body.

### Detailed Description of the Preferred Embodiment

An exploded side view of a beverage container according to the present invention is shown in Fig. 1, generally designated as 10. The container 10 is made up of two parts, namely a cover 12 made of acrylonitrile-butadiene-styrene terpolymer (ABS) and a body 14 made of polypropylene (PP) or ABS. The body 14 is in the general shape of a top-open cup with an internal cavity for containing aerated beverages, such as soft drinks and aerated mineral waters.

As shown more clearly in Fig. 2, the cover 12 has a lower circular recess 16 around which is tightly provided a silicon O-ring 18. A pull-tab 20 made of a resilient synthetic rubber, e.g. styrene-butadiene-styrene block copolymer (SBS), is secured to the cover 12 by an ABS retainer 22, in a manner to be discussed further below.

As can be seen in Figs. 3 and 4, the pull-tab 20 is attached at one end with the cover 12 *via* the retainer 22, which allows the pull-tab 20 to rotate about the longitudinal axis of the retainer 22, which is also parallel to the longitudinal axis of the cover 12. At another end of the pull-tab 20 is provided a male part 24 snap-fittable with an opening 26 of the cover 12 in an air-tight manner. Adjacent to the opening 26 is a spout 28. When the cover 12 is engaged with the body 14, the male part 24 may be engaged with and thus close the opening 26 for keeping the cavity of the body 14 in an air-tight condition. In use, a user may insert his/her finger into a hole 30 (see Fig. 2) to pull on the pull-tab 20 so as to disengage the male part 24 from the opening 26. The content in the body 14 may thus be poured out of the body 14 through the opening 26, and subsequently *via* the spout 28 for consumption.

As shown clearly in Fig. 5, along a peripheral wall 32 of the cover 12 extend two diametrically disposed pins 34, which serve the purpose of engaging the cover 12 with the body, in a manner to be discussed below.

A longitudinal sectional view of the body 14 is shown in Fig. 6. Two channels 40 (of which only one is shown in Fig. 6) are provided at two diametrically opposed positions adjacent to the upper periphery of the body 14. The channel 40 is wide enough to allow one of the pins 34 to pass along. It can be seen that the channel 40 extends downwardly from the upper periphery of the body 14, and turns 90° in a generally horizontal direction. The channel 40 thus has two portions which are joined with, and perpendicular to, each other.

Turning now to Figs. 7A and 7B, such show how the cover 12 and the body 14 may be releasably engageable with each other. As shown in Fig. 7A, the cover 12 is moved towards the body 14 until the pins 34 are received into the respective channel 40 in the body 14. The cover 12 is then swiveled relative to the body 14 so as to move the pins 34 along the turned portion of the respective channel 40, to the position as shown in Fig. 7B. In this configuration, the cover 12 cannot be detached from the body 14 unless the cover 12 is swiveled in the opposite direction until the

cover 12 and the body 14 are in the relative position as shown in Fig. 7A. Such an arrangement is important in achieving the purpose now sought in the present invention.

5 Fig. 8 shows the cover 12 and the body 14 of the container 10 engaged with each other and containing an aerated beverage 50. In conventional containers, the carbon dioxide in the aerated beverage 50 would escape into the space 52 between the cover 12 and the body 14, even if the cover and the body of the conventional container is fitted with each other in an air-tight manner. In the container 10  
10 according to the present invention, however, as a lower portion of the cover 12 extends into the cavity of the body 14, and as the O-ring 18 performs a sealing function between the cover 12 and the body 14, such prevents air or gas from escaping from the cavity of the container 10 to the outside environment, the air pressure in the space 52 will be raised above the atmospheric pressure. Such an  
15 elevated pressure will hinder the escape of carbon dioxide or oxygen from the aerated beverage 50 into the space 52 in the container 10, thus assisting in keeping the taste and quality of the aerated beverage.

When the cover 12 is pushed into the body 14 for engagement, the cover 12  
20 acts against the air pressure in the body 14. The pin-and-channel engagement arrangement discussed above thus prevents the cover 12 and the body 14 from accidental disengagement, e.g. by action of the raised air pressure in the cavity 52. As mentioned above, a user may consume the aerated beverage 50 in the container 10 by disengaging the male part 24 from the opening 26.

25 It can be seen that such is a neat and tidy arrangement, allowing the taste and quality of aerated beverages to be maintained over a long period of time, and is both user friendly and environmentally friendly.

30 It should be understood that the above only illustrates an example whereby the present invention may be carried out, and that various modifications and/or alterations may be made thereto without departing from the spirit of the invention. It

should also be understood that various features of the invention which are, for brevity, described here in the context of a single embodiment, may be provided separately or in any appropriate sub-combinations.